

DaimlerChrysler AG

Patent claims

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1. A method for processing workpiece surfaces which are to be supplied with lubricant when the workpiece is in use, characterized in that capillaries (9) are incorporated in the workpiece surface (4) by means of
10 high-pressure water jets (8), these capillaries (9) serving as lubricant reservoirs when the workpiece (3) is in use.

2. The method as claimed in claim 1, characterized in
15 that a cylinder running surface (4a) of a cylinder liner (3a) of an internal combustion engine (1) is used as the workpiece surface (4) to be machined.

3. The method as claimed in claim 2, characterized in
20 that the capillaries (9) are incorporated in a region directly below the top dead center (TDC) of a piston (10) moving relative to the cylinder running surface (4a).

4. The method as claimed in claim 2 or 3, characterized
25 in that the capillaries (9) are incorporated in a region directly above the bottom dead center (BDC) of a piston (10) moving relative to the cylinder running surface (4a).

30 5. The method as claimed in one of claims 1 to 4, characterized in that the capillaries (9) have a ratio of their width (b) to their depth (t) of 1:2 to 1:10.

6. The method as claimed in one of claims 1 to 5,
35 characterized in that the capillaries (9) have a width (b) of 10 to 60 μm .

7. The method as claimed in one of claims 1 to 6, characterized in that the capillaries (9) have a depth (t) of 60 to 120 μm .

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8. The method as claimed in one of claims 1 to 7, characterized in that the high-pressure water jets (8) are discharged by a lance (6) having a plurality of high-pressure nozzles (7), one to eight high-pressure nozzles (7) being arranged around the periphery of the lance (6).

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9. The method as claimed in claim 8, characterized in that the lance (6) is rotated at 10 to 1000 rev/min, in particular 100 to 500 rev/min.

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10. The method as claimed in one of claims 1 to 9, characterized in that the high-pressure water jets (8) are discharged at a pressure of 1800 to 3200 bar.